REMARKS

By the present amendment, claim 17 is pending in the application.

§112, ¶1

Claims 17 and 18 were rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement.

The Office Action maintained that the "at least 10 mm downward" (Figs. 2(a), 2(b) and 2(c)) and the 30-60 degree angle (Fig. 3) cannot be combined in one claim.

In response to this rejection, claim 17 has been amended by the present amendment to delete the phrase "to at least 10 mm downward from the upper end portion".

In view of the present amendment, it is respectfully requested that the rejection of independent claim 17 under 35 U.S.C. §112, first paragraph, be withdrawn.

Dependent claim 18 has been canceled by the present amendment.

§103

Claims 12, 14, 15, 17 and 18 were rejected under 35 U.S.C. §103(a) as being unpatentable over WO 01/16438 to Sugimoto et al. (WO 01/16438 corresponds to U.S. Patent No. 6,857,808) in view of U.S. Patent No. 5,401,080 to Wenzel and either U.S. Patent No. 6,467,321 to Ptokopenko or the reference referred to as "Lixing" (a one (1) page abstract titled "Investigation On Improving Fatigue Properties Of Welded Joints By Ultrasonic Peening Method").

This rejection, as applied to amended independent claim 17, is respectfully traversed.

Patentability

Sugimoto discloses inverted-U and inverted-V shaped ribs, but does not disclose or suggest ultrasonic peening of welds. Wenzel does not disclose or suggest the ultrasonic peening of welds of inverted-U or inverted-V shaped ribs.

Prokopenko and Lixing are directed to improving fatigue strength of a weld joint by means of applying ultrasonic peening to weld toes of a T-joint. However, these references use weld joints having low stress concentration and they do not disclose or suggest to apply ultrasonic peening to weld toes of the weld joint of an interted-U and inverted-V shaped rib.

As disclosed in the specification and as pointed out by the Office Action, residual stress remains in the weld joint because of the welding heat. When ultrasonic peening is applied to this portion, residual stress is distributed in a complicated manner. As a result, in order to find the most appropriate ranges of ultrasonic peening obtaining an improved effect of fatigue endurance with minimum cost and time, it is necessary to engage in actual experimentation.

More specifically, in case of plate ribs, a person skilled in the art can possibly conceive to apply ultrasonic peening to only the upper portions of weld toes of plate ribs, as the Office Action pointed out. However, in case of inverted-U or inverted-V shape ribs, one skilled in the art cannot easily conceive to apply ultrasonic peening to only the upper portions of weld toes of such shaped ribs. Prokopenko and/or Lixing do not address inverted-U or inverted-V shaped ribs. Further, a person skilled in the art cannot easily conceive to apply ultrasonic peening to the inverted-U or inverted-V shaped ribs having a center line and the peened processed portion for the shaped ribs is a region extending at a central angle on both

sides of the center line, wherein the central angle is in the range of about 30 to 60 degrees, as required by the present invention.

Therefore, the present invention is different from the cited prior art: WO 01/16438 (USP 6,857,808); USP 5,401,080; USP 6,467,321; Lixing Publication.

It is therefore submitted that amended independent claim 17 is not disclosed or suggested by WO 01/16438 to Sugimoto et al. in view of U.S. Patent No. 5,401,080 to Wenzel and either of U.S. Patent No. 6,467,321 to Prokopenko or Lixing.

It is therefore submitted that amended independent claim 17 is patentable.

CONCLUSION

It is submitted that in view of the present amendment and foregoing remarks, the application is now in condition for allowance. It is therefore respectfully requested that the application, as amended, be allowed and passed for issue.

Respectfully submitted,

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